

CERTAMEN MELASTOMATACEIS XX.

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Most of the current miscellany is based upon recent collections of G. T. Prance, D. R. Simpson, and J. Schunke from Brazil and Peru, plus a few long-pending novelties from elsewhere in Latin America. Included also are some additional results from the Andean fieldwork of E. Asplund; more will be published later on the extensive Ecuadorian collections of Asplund and other Scandinavian botanists.

ADELOBOTRYS ACREANA Wurdack, sp. nov.

A. macrophyllae Pilger affinis, foliis trinervatis ad basim nec rotundatis nec cordulatis differt.

Ramuli sicut petioli foliorum venae primariae subtus inflorescentiaque densiuscule pilis malpighiaceis 0.8-1 mm longis appressis vel subappressis induti. Petioli 0.7-1 cm longi; lamina 8-13 X 4-6 cm elliptica apice acuto vel paullulo acuminato basi acuta vel anguste obtusa, tenuiter coriacea et integra, densiuscule appresso-ciliata, supra primum sparsissime strigulosa mox glabrescens, subtus in superficie sparsiuscule pilis malpighiaceis appressis gracillimis 1.5-2 mm longis obsita, 3-nervata (pari tenui ca. 0.5-1 mm inframarginali neglecto) nervis secundariis supra invisibilibus subtus tenuibus ca. 0.5-1 cm inter se distantibus nervulis non vel vix evolutis. Panicula ca. 5 cm longa lataque submultiflora; flores 5-meri, pedicellis 3.5-4 mm longis. Hypanthium (ad torum) 4.3 X 2.8 mm extus sparse pilis malpighiaceis appressis demum caducis armatum; calycis tubus 1.5 mm longus, lobis interioribus oblatis ca. 0.3 mm altis sparsissime glandulis 0.1 mm longis ciliolatis intus glabris, dentibus exterioribus modice setulosis inframarginalibus. Petala 9-9.5 X 5.5-5.9 mm obovato-oblonga glabra. Stamina paulo dimorphica glabra; filamenta 8-8.5 mm longa; antherarum thecae declinatae subulatae 8.2 mm vel 5 mm longae, poro 0.1-0.15 mm diam. paulo dorsaliter inclinato, appendice ascendenti 2.3 vel 1.8 X 0.3 mm apice hebeti et paullulo (0.05-0.1 mm) emarginato, dente ca. 0.3 mm longo acuto. Stigma truncatum 0.5 mm diam.; stylus 8 X 0.35-0.45 mm glaber; ovarium 5-loculare apice ca. 0.2 mm 5-lobulato.

Type Collection: G. T. Prance, P. J. M. Maas, K. Kubitzki, W. C. Steward, J. F. Ramos, W. S. Pinheiro, & J. F. Lima 12564 (holotype US 2647822; isotype NY), collected in forest on terra firme, Rio Moa 8 km above Cachoeira Grande, Estado Acre, Brazil, 27 April 1971. "Vine. Petals, filaments, and style pink; anthers yellow."

Paratype: José Schunke V. 2070 (US), from "bosque alto carretera Miel de Abeja, a 2 km del Campamento de Iparía," Dto. Honoría, Prov. Pachitea, Depto. Huanuco, Peru, 22 June 1967.

"Liana 7-8 m; flores rosados."

Adelobotrys macrophylla has generally larger 5(-7)-nerved leaf blades rounded to cordulate at the base and generally longer (ca. 1/4) hypanthia, but similar stamens with blunt slightly emarginate apices on the ascending connective tooth; A. rotundifolia Triana (still with topotypical flowering material unknown, but again collected fruiting [Steyermark & Bunting 102773, San Carlos, Amazonas, Venezuela]) differs at least in the relatively broader distinctly 5(-7)-nerved leaf blades with cordulate bases. The Peruvian A. subsessilis Gleason has similar stamens, but relatively much narrower leaf blades cordulate at the base and with petioles only 2-3 mm long. The Peruvian paratype of A. acreana differs slightly from the Brazilian type in the slightly (0.5 mm) projecting external calyx teeth, slightly longer (2.8 mm or 2.4-2.6 mm) ascending connective tooth, and longer (1.3 mm or 0.8 mm) spur, and perhaps will prove subspecifically distinct; the description is based solely on the flowers of the Prance collection. Both the Peruvian and Brazilian collections have indistinct inframarginal (less than 1 mm) fourth and fifth primary veins, rather than (as in A. macrophylla) distinct veins 4-7 mm from the margins.

ADELOBOTRYS KLUGII Wurdack, sp. nov.

A. marginatae Brade affinis, foliorum subtus pilis minoribus erectis floribus minoribus differt.

Ramuli sicut foliorum subtus venae primariae inflorescentiarum ramique dense setulosi pilis castaneis malpighiaceis (stipite 0-0.15 mm longo, ramis singulatim plerumque 0.5-1 mm longis). Petioli 0.7-1.3 X ca. 0.15 cm; lamina (6-)8-12 X (2.5-)4-5.5 cm anguste ovata vel oblongo-ovata apice breviter gradatimque acuminata basi rotundata, subcoriacea et integra, dense appresso-ciliata, supra primum sparse malpighico-strigulosa mox glabrescens, subtus modice persistenterque setulosa pilis rufidulis malpighiaceis sessilibus vel subsessilibus (ramis singulatim ca. 0.3-0.5 mm longis), 3-nervata (pari tenui ca. 0.5-1 mm inframarginali neglecto) nervis secundariis supra invisibilibus ca. 4 mm inter se distantibus nervulis laxis vix vel non evolutis. Paniculae 4-6 cm longae submultiflorae terminales vel in foliorum superiorum axillis insertae; flores 5-meri in ramulis conferto-umbellati, pedicellis 2-3 mm longis. Hypanthium (ad torum) 3 mm longum extus modice strigulosum pilis malpighiaceis sessilibus (ramis appressis singulatim ca. 0.7 mm longis); calycis tubus 0.7-0.8 mm longus, lobis interioribus 0.5-0.6 mm longis ovatis eciliolatis intus glabris, dentibus exterioribus 0.6-0.7 mm eminentibus dense strigulosis. Petala 5.5-6.6 X 2.7-3.4 mm oblongo-obovata glabra. Stamina dimorphica glabra; filamenta 5-5.5 mm longa; antherarum thecae declinatae subulatae 4.5-5 mm vel 3-3.2 mm poro 0.1-0.15 mm diam. dorsaliter (antherarum maiorum) vel ventraliter (antherarum minorum) inclinato, appendice dorsali ascendenti paullulo (0.1-0.2 mm) hebeti-bilobulata 1.9-2.1 vel 1.6-1.7 X 0.2-0.25 mm, dente dorsali acuto 0.5-0.9 mm longo. Stigma truncatum 0.25 mm diam.;

stylus 5.7-5.8 X 0.2-0.25 mm glaber; ovarium 5-loculare anguste oblongum glabrum.

Type Collection: G. Klug 1914 (holotype US 1456648), collected in forest at Umbria, Com. Putumayo, Colombia, elev. 325 m, Jan.-Feb. 1931. "Vine; petals lilac."

Paratype (topotypical): Klug 1844.

Adelobotrys marginata (cf. Phytologia 20: 373. 1970) has the lower leaf surface malpighian hairs rather appressed and with arms each ca. 0.7-1(-1.5) mm, hypanthia (to the torus) ca. 5 mm long, and petals 8-10 X 4.6-6 mm, as well as stouter leaf petioles 2.5-3 mm diam. Certainly more distantly related are A. spruceana Cogn. (smaller thinner leaves sparsely ciliate with erect simple hairs and more-or-less glabrescent beneath on the actual surfaces, flowers in crowded bracteate heads) and A. fuscescens Triana (serrulate leaves with less dense and caducous lower surface pubescence, interior calyx lobes densely ciliolate and moderately strigulose within, tuberculate inframarginal external calyx teeth, and ascending appendages of the larger stamens caudate-bifid for 0.7 mm). Another species with quite pubescent foliage, A. boissierana Cogn., has non-emergent external calyx teeth, caudate-bifid ascending connective appendages, and (at least as to recent Ecuadorian material, Lugo 2 and 692 from Pastaza) unbranched hairs on the lower leaf surfaces.

GRAFFENRIEDA MOAENSIS Wurdack, sp. nov.

G. intermediae Triana et G. weddellii Naudin affinis, foliis trinervatis ad basim late acutis floribus 6-meris differt.

Ramuli primum paulo compressi demum teretes sicut foliorum venae primariae subtus inflorescentia hypanthiaque primum ravo-puberuli (indumento appresso) demum glabrati. Petioli 0.8-1.4 cm longi; lamina (6-)-8-11 X (2.5-)-3-4.5 cm elliptica apice breviter (1-1.5 cm) gradatimque acuminato basi acuta, firme membranacea et integra, supra glabra, subtus indumento amorpho cinereo persistente dense obsita, trinervata nervis secundariis 3-4 mm inter se distantibus nervulis subtus planis laxe reticulatis ob indumentum saepius occultis. Panicula ca. 4 cm longa submultiflora, bracteolis ca. 3-5 X 1-2 mm oblanceatis ad anthesim caducis; flores 6-meri obscure (0.5 mm) crasseque pedicellati. Hypanthium (ad torum) 3 mm longum; calycis tubus ca. 1 mm longus, lobis 2.8 X 1.5-1.7 mm lanceatis. Petala 5.3 X 3.2-3.3 mm obovata apice obtuso et setula unica 0.2 mm longa armata alioqui glabra. Stamina isomorphica glabra; filamenta 3 mm longa; antherarum thecae 3 X 0.5 mm arcuatae subulatae poro 0.1 mm diam. ventraliter inclinato; connectivum 0.3 mm pro-longatum, dente dorsali 1-1.1 mm longo acutissimo. Stigma punctiforme; stylus glaber 4.5 X 0.3 mm in ovarii apicem 0.8 mm immersus; ovarium 3-loculare ca. 2 mm longum (collo incluso) apice dense granuloso.

Type Collection: G. T. France, P. J. M. Maas, K. Kubitzki, W. C. Steward, J. F. Ramos, W. S. Pinheiro, & J. F. Lima 12634 (holotype US 2647823; isotype NY), collected in forest on hill

slopes, Rio Moa between Cachoeira Grande and Serra da Moa, Estado Acre, Brazil, 28 April 1971. "Treelet 4 m. Corolla white; filaments dark yellow, anthers paler."

Both suggested relatives have 5-7-nerved leaf blades rounded to cordulate at the base, predominantly 5-merous flowers, and narrowly acute petal apices.

LEANDRA COLLINA Wurdack, sp. nov.

*L. purpurascenti* (DC.) Cogn. affinis, ramulis non setosis foliorum superficiebus supra glabris differt.

Ramuli juveniles teretes sicut petioli foliorum venae primariae subtus inflorescentia hypanthiaque dense puberuli pilis stipitato-stellatis (stipite 0.1-0.2 mm longo) vel stellato-pinoideis usque ad 0.3 mm longis. Petioli 0.7-1.5 cm longi; lamina (3.5-)4.5-8 X (1-)1.4-1.8 cm oblongo-lanceata apice gradatim acuminato basi late acuta vel obtusa, firme membranacea et integra, prominenter appresso-ciliata pilis laevibus ca. 1 mm longis, supra in costa modice graciliterque appresso-setulosa alioqui glaberrima, subtus in venis venulisque modice setulosa pilis gracilibus laevibus ca. 0.8 mm longis, 5-nervata vel usque ad 3 mm pseudo-plinervata pari exteriori inframarginali nervis secundariis ca. 2 mm inter se distantibus nervulis supra invisibilibus subtus planis et modice reticulatis (areolis ca. 0.3 mm latis). Panicula 3-5 cm longa terminalis pauciflora interdum paulo refracta, ramulis pilis laevibus ca. 0.8 mm longis sparse setulosis; flores 5-meri subsessiles (pedicellis crassis ca. 0.5 mm longis) plerumque ad ramulorum apices 3-5-glomerati, bracteolis 2-3 X 0.2-0.4 mm sparse setulosis persistentibus. Hypanthium (ad torum) 3.6-3.8 mm longum extus dense setosum pilis gracilibus laevibus 1-1.5 mm longis; calycis tubus 0.3 mm longus, lobis interioribus 2 X 1.2 mm ovato-oblongis intus basim versus et extus sparse stellulato-puberulis, dentibus exterioribus 2 mm eminentibus lineari-subulatis setulosis; torus intus sparse vel modice setulosus pilis 0.2-0.7 mm longis. Petala 4-4.1 X 1.3-1.5 mm oblongo-lanceata acuminata glabra. Filamenta 3-3.2 mm longa glabra; antherarum thecae 3.3-3.5 mm longae oblongo-subulatae poro ca. 0.15 mm diam., connectivo non prolongato dorsaliter ad basim per 0.4-0.5 mm plerumque paulo elevato. Stigma punctiforme; stylus 6.8-7.2 X 0.3-0.4 mm glaber vel interdum basim versus sparsissime glanduloso-setulosus (pilis usque ad 0.7-1 mm longis); ovarium 3-loculare et 1/2 inferum apice setulis paucis caducis 0.25-1.8 mm longis plerumque ornato.

Type Collection: Bassett Maguire & Celia K. Maguire 44562 (holotype US 2444800; isotype NY), collected at the Biological Station at Paranapiacaba, São Paulo, Brazil, elev. 800-900 m, 6 Dec. 1959. "Shrub or small tree. Flowers white."

Paratypes (both São Paulo, Brazil): F. R. Fosberg 43341 (US), from Serra do Moji 0.5-1 km west of Paranapiacaba above Santos, "Alto da Serra," Mun. Riberão Pires, elev. 760-840 m, 28 Oct. 1962; L. B. Smith 1853 (US), from Estação Biológica, Alto da Serra, elev. 800-900 m, Feb. 1929 (fruiting).

Leandra purpurascens has young branchlets retrorse-strigulose with simple hairs, upper leaf surfaces sparsely to moderately strigulose, and ovary apices generally more abundantly setulose. Another more distant relative is L. kleinii Brade, with pustulate upper leaf surfaces, smaller flowers, and anther connectives attenuate-prolonged at the base. Among other species known to me primarily only by descriptions, L. acuminata Cogn. differs at least in the relatively broader 7-nerved leaf blades, L. diffusa Cogn. (type examined at Paris) has sparsely (1-1.5 mm) setulose branchlets and pedicels 2-5 mm long, L. miconiastrum (Naud.) Cogn. var. parvifolia Cogn. has hirtelous branchlets, smaller flowers, and shorter external calyx teeth, and L. sparsisetulosa Hoehne has broader leaf blades "subglabrous" beneath and hypanthia merely sparsely "stellate-furfuraceous." It is odd that a species collected thrice in the Alto da Serra region was unknown to Hoehne and Brade.

MICONIA PRANCEI Wurdack, sp. nov.

Sect. Adenodesma. M. tomentosae (Rich.) Don affinis, foliis distincte petiolatis non acuminatis differt.

Ramuli novelli inconspicue compressi demum teretes, sicut foliorum subtus venae primariae et secundariae hypanthiaque pilis pinoideis appressis 0.05-0.1 mm altis et 0.1-0.15 mm diam. dense obsiti. Petioli 1.5-2.5 mm longi; lamina (9-)12-18(-21.5) X (5-)6-8(-10) cm elliptica vel paulo obovato-elliptica apice late hebeti-obtusum vel rotundatum basi late acuta, firme membranacea et integra vel obscure distanterque crenulata, ubique in superficie glabra, subtus in venulis sparsissime pilis pinoideo-stellulatis 0.05-0.1 mm diam. induta, breviter (0.3-0.8 cm) subalternatimque 3-plinervata (pari 0.5-1 mm inframarginali neglecto) nervis secundariis ca. 0.7 cm inter se distantibus nervulis subtus planis dense reticulatis (areolis 0.2-0.3 mm latis). Panicula 10-19 X 1.5-4 cm (pedunculo 4-7 cm longo incluso) angusta submultiflora; flores 5-meri subsessiles (pedicellis crassis 0.3-0.7 mm longis), bracteolis inconspicuis ca. 0.5 X 0.2 mm valde caducis. Hypanthium (ad torum) 4 mm longum inconspicue 10-costulatum; calyx 2.6-3 mm longus in alabastris clausus ad anthesim in lobos ovatos ca. 1-1.6 mm dehiscens extus modice et intus sparse stellulato-puberulus; torus intus setulis ca. 10 glanduliferis 0.3 mm longis ornatus. Petala glabra 5.7-6 X 2.6-2.7 mm oblongo-obovata apice asymmetrico retuso. Stamina paullulo dimorphica; filamenta 7.6-8 mm vel 7-7.4 mm sparse glanduloso-puberula pilis 0.1-0.15 mm longis; thecae 7.2-7.4 vel 6-6.5 X 0.8 mm subulatae, poro ca. 0.2 mm diam. ventraliter inclinato; connectivum ad basin ventraliter bilobulatum modice glandulosum, glandulis ca. 0.05 mm diam. et 0.2-0.25 mm stipitatis. Stigma paulo expansum 1-1.2 mm diam.; stylus 14 X 0.5-0.6 mm sparsiuscule glanduloso-puberulus (pilis ca. 0.2 mm longis) in ovarii collum 1.2 mm immersus; ovarium 3-loculare et 0.9 superum, collo sparsiuscule glandulis 0.1 mm longis ornato.

Type Collection: G. T. Prance, D. F. Coêlho, & O. P.

Monteiro 14793 (holotype US 2647824; isotype NY), collected in savanna forest on sandy soil, Rio Cuieras just below mouth of Rio Brancinho, Estado Amazonas, Brazil, 24 Sept. 1971. "Tree 8 m X 10 cm diam. Corolla white tinged pink; filaments purple."

Miconia tomentosa has essentially sessile acuminate leaves. Generally, except for the petiolate obtuse leaves, M. prancei resembles the small-flowered element with small trichomes (M. symplectocaulos Pilger) synonymized by Gleason (Bull. Torrey Club 58: 227. 1931) under M. amplexans (Crueg.) Cogn.; this variant probably is at least subspecifically distinct from M. tomentosa-M. amplexans, but the range in flower size of M. tomentosa with typical large vegetative trichomes is great and requires further analysis. Both M. tomentosa and M. prancei have the rather hyaline calyx completely closed in young bud (despite Gleason's key distinctions from M. triangularis, Bull. Torrey Club 59: 366-367. 1932) and rupturing more-or-less regularly into lobes before anthesis.

MICONIA SCHUNKEI Wurdack, sp. nov.

M. fanshawei Wurdack affinis, foliorum trichomatibus minoribus differt.

Ramuli teretes, sicut petioli inflorescentiae hypanthiaque densissime pilis stipitato-stellatis (stipite 1-2.5 mm longo; ramulis ca. 0.2 mm longis) erectis induti. Petioli 1.5-4 cm longi; lamina 12-29 X 4.5-12 cm anguste elliptica apice acuto vel paulo acuminato et 1-3 mm mucronulato basi acuta, subcoriacea et obscure denticulata, supra primum densiuscule pilis stellatis sessilibus vel 0.1-0.2 mm stipitatis induta mox glabrata, subtus modice persistenterque pilis stellatis plerumque stipitatis (stipite 0.2-0.3 mm longo; ramulis ca. 0.2 mm longis) ornata, 5-plinervata (pari tenui inframarginali neglecto) nervis primariis interioribus 1.8-4 cm supra basim divergentibus nervis secundariis ca. 3-5 mm inter se distantibus sicut nervulis supra obscuris nervulis subtus paulo elevatis laxae (areolis ca. 1 mm latis) reticulatis. Inflorescentiae ut videtur primum terminales demum laterales (e basim bifurcatae?) confertiflorae recurvatae 1-2.5 cm longae; flores 5-meri sessiles interrupto-glomerati, bracteolis non visis (ob pilos occultis?). Hypanthium (ad torum) 1.7 mm longum; calycis tubus 0.3-0.4 mm longus, lobis interioribus ovato-oblongis rotundatis 0.6 X 0.3-0.4 mm pilis stipitato-stellatis 0.5 mm longis ciliolatis, dentibus exterioribus subulatis 0.7-0.8 mm eminentibus pilis stipitato-stellulatis ornatis; torus intus minute (0.1 mm) glanduloso-setulosus. Petala 3-3.4 X 1-1.2 mm oblonga apice rotundato et interdum setula glandulifera 0.1 mm longa armato alioqui glabra. Stamina glabra; filamenta 2-2.5 mm longa; antherarum thecae 1.6-1.7 X 0.35 mm oblongo-subulatae uniporosae (poro terminali 0.1 mm diam.), connectivo paulo (0.25-0.3 mm) prolongato dorsaliter ad basim tuberculo 0.1-0.15 mm elevato ornato. Stigma truncatum 0.25 mm diam.; stylus 6 X 0.2-0.25 mm glaber; ovarium 3-loculare et 1/4 inferum, apice collo 0.5 mm alto stellulato-uberulo coronato.

Type Collection: José Schunke 5756 (holotype US 2649576; isotype F), collected at Porongo east of Uchiza, Depto. San Martín, Peru, elev. 450 m, 20 Jan. 1962. "Arbusto 2 m; flores pequeñas, 10Y8/11 (strong greenish yellow)."

The suggested Guyana relative has foliar hairs persistent on the upper surface and with stipe and arms each 0.5-0.7 mm, as well as exappendiculate stamens. In pubescence, M. diaphanea Gleason is closer than M. fanshawei; that species however has a conical calyx (in bud) splitting at anthesis and non-emergent external calyx teeth. The inflorescence pattern in M. schunkei is rather more like that of Clidemia than Miconia, but the pubescence and floral details are like those of the two above-suggested relatives.

MICONIA HUANUCENSIS Wurdack, sp. nov.

Sect. Amblyarrhena. M. bailloniana Macbride affinis, pedicellis brevioribus hypanthiis teretibus differt.

Ramuli quadrangulati non alati paulo infra nodos perforati sicut folia inflorescentia hypanthiaque glabri. Petioli 2-5.5 cm longi; lamina (9.5-)15-23 X (4-)5.5-9.5 cm elliptica vel paulo oblongo-elliptica apice breviter (1.5-2 cm) acuminato basi acuta, membranacea et integra vel obscure ciliolato-serrulata ciliis appressis vix 0.2 mm longis, 5-plinervata (pari internodiis 1-3 cm supra basin divergenti) nervis secundariis ca. 7-9 mm inter se distantibus nervulis subtus planis areolis plerumque ca. 0.8-1 mm latis. Panicula 9-26 cm longa (pedunculo 3-6.5 cm longo incluso) ramis primariis oppositis sicut ramulis pedicellisque arcte subalato-quadrangulatis; flores 5-6-meri, pedicellis 1-2 mm longis crassis, bracteolis non visis (mox caducis?). Hypanthium (ad torum) 3.3-3.5 mm longum teres; calycis tubus 0.5 mm longus, lobis in alabastris clausis ad anthesim 2-2.5 X 2-2.2 mm ovatis, dentibus exterioribus obscuris non liberis inframarginalibus. Petala glabra 4.4-5 X 3-4 mm oblonga apice paulo retuso. Stamina paullulo dimorphica; filamenta 3.5-4.5 mm vel 2.6-3 mm longa apicem versus modice glanduloso-puberula pilis ca. 0.1 mm longis; antherarum thecae 3.3-3.5 vel 3.2-3.3 X 1 X 0.7-0.8 mm oblongae paulo curvatae poro 0.3 mm diam. ventraliter inclinato, connectivo non appendiculato. Stigma expansum 1-1.4 mm diam.; stylus 4-5 X 0.5 mm sparse vel modice glandulosus 0.05-0.1 mm longis obsitis in ovarii collum 0.2-0.5 mm immersus; ovarium 5-6-loculare et 2/3 inferum collo paullulo (0.05-0.1 mm) lobulato et glandulis paucis 0.05 mm longis ciliolato.

Type Collection: E. Asplund 13173 (holotype S), collected at Tingo Maria, Depto. Huanuco, Peru, 18 Aug. 1940. "About 4 m high; branches of inflorescence lilac; calyx pale greenish yellow; petals white."

Paratype (topotypical): E. Asplund 13175 (S).

Miconia bailloniana has longer (ca. 5 mm) pedicels and somewhat larger winged hypanthia, but is otherwise (vegetatively and in stamens) quite similar. Miconia bangii Cogn. lacks infra-nodal branchlet perforations and has much smaller flowers (hypanthia ca. 2.2 mm long; petals 2-2.3 X 1.8 mm; anthers

2-2.4 mm long) with setulose (0.3 mm) ovary apices, but is otherwise qualitatively similar in floral structure. In Macbride's key in the Flora of Peru, *M. huanucensis* would key to ca. *M. expansa* Gleason, which is probably more distantly related than the two above-suggested relatives (primary inflorescence branches 4-8 per node; glandular-ciliate leaf blades; calyx lobes tipped with caducous glandular setulae; anthers with dorsally deflexed apex). Gleason had indicated in a postscript in his melastome notes that *M. expansa* might be synonymous with *M. bailloniana*, but this is certainly not true. In the type collection of *M. huanucensis*, the visible flowers all seem 5-merous, while in the paratype all three flowers and buds examined were 6-merous; otherwise, there are no differences between the two collections.

MICONIA ASPLUNDII Wurdack, sp. nov.

Sect. *Amblyarrhena*. *M. modicae* Macbride et *M. coroniferae* Wurdack affinis, foliorum apicibus obtusis differt.

Ramuli primum obtuse quadrangulati demum teretes sicut petioli inflorescentia hypanthiaque modice caduceque pinoideo-puberuli pilis ca. 0.1 mm longis latisque; linea interpetiolaris non evoluta. Petioli (1.5-)2-4 cm longi; lamina (8-)12-18 X (4-)6-9 cm elliptica apice obtuso basi rotundata et cordulata vel paullulo (usque ad 0.3 cm) peltata, tenuiter coriacea et integra vel obscure crenulata, ubique in superficie glabra, subtus in venis secundariis venulisque sparse caduceque pinoideo-puberula, 5(-7)-plinervata pari interiore 0.6-1 cm supra basim divergenti nervis secundariis ca. 3-4 mm inter se distantibus sicut nervulis ubique obscure elevatis areolis subtus ca. 1 mm latis. Panicula 12-15 cm longa submultiflora; flores 5-meri, pedicellis ca. 2 mm longis crassis, bracteolis 3 X 0.3-0.4 mm mox caducis. Hypanthium (ad torum) 4 mm longum intus non costatum; calycis tubus 1 mm longus, lobis interioribus 1 X 2.5 mm oblatis caduce ciliolatis intus basim versus sparse caduceque pinoideo-puberulis, dentibus exterioribus appressis crassis lobos interiores aequantibus vel paulo brevioribus; torus intus sparsiuscule glanduloso-ciliolatus pilis 0.15-0.3 mm longis. Petala 6.2-7 X 4-6 mm minutissime granulosa obovata vel oblongo-ovata apice paulo emarginato. Stamina isomorphica; filamenta 3.5-4 mm longa sparsiuscule glanduloso-puberula pilis 0.1 mm longis; antherarum thecae 2.8-3 X 0.8-0.9 X 0.9 mm oblongae poro 0.1 mm diam. dorsaliter inclinato, connectivo nec prolongato nec appendiculato. Stigma capitellatum 1 mm diam.; stylus 8-8.5 X 0.6-0.7 mm modice glanduloso-puberulus (pilis ca. 0.2 mm longis) in ovarii apicem 0.8 mm immersus; ovarium 4-loculare et 1/2 inferum, apice conico 2 mm alto (styli collo 0.8 mm alto incluso) sparsissime glandulis 0.05 mm longis ornato.

Type Collection: *E. Asplund* 9854 (holotype S), collected in the valley of Río Sangarinas (Desaguadero), Río San José, Cordillera de Llanganates, Prov. Tungurahua, Ecuador, elev. 3100-3200 m, 24 Nov. 1939. "Shrub 5 m high; calyx brownish



green; petals white; anthers yellow."

Paratype (near-topotypical): E. Asplund 9795 (S), from "La Trinca," elev 3000 m.

Both suggested relatives have leaf blades with narrowly acute to acuminate apices. Miconia modica has somewhat smaller flowers (calyx [tube plus lobes] ca. 1.2 mm long; hypanthium 3-3.2 mm long; petals 4-5 mm long; anthers 2-2.5 mm long), but anthers of similar shape and hypanthium essentially lacking internal ribs. Miconia coronifera has considerably larger vegetative hairs ca. 0.25 mm diam., longer and more abundant toral and ovarian hairs, shorter calyx, and a larger (1.8 mm diam.) stigma. Other species of this general alliance such as M. floribunda (Bonpl.) DC. (smaller petals, hypanthium internally ribbed, anthers differently shaped, larger filament glands, stigma ca. 3 mm diam.), M. amabilis Cogn. (leaves narrowly acute or acuminate, much smaller flowers), M. majalis Cogn., M. grandiflora Cogn., and M. macrantha Triana (all three with much larger petals and stigmas) seem more distantly related, as do the three species with sharply quadrangular branchlets recently described by me (M. madisonii, M. incacachana, M. terborghii).

MICONIA SCHNELLII Wurdack, sp. nov.

Sect. Cremanium. M. biperuliferae Cogn. affinis, foliorum laminis ad basim plerumque rotundatis basaliter nervatis venarum primariarum poculis non evolutis differt.

Frutex vel arbor 2-8 m; ramuli primum obtuse sulcato-quadrangulati demum teretes sicut inflorescentia plerumque essentialiter glabri. Petioli 1-2.5 cm longi; lamina 4-8.5 X 2.5-3.5 cm oblongo-ovata apice acuto basi rotundata, tenuiter coriacea et obscure calloso-serrulata, supra glabra, subtus in superficie modice glanduloso-punctata et in venarum primariarum axillis (et paulo supra axillas) densiuscule setosa pilis simplicibus 1-4 mm longis persistentibus alioqui glabra, 3-nervata (pari exteriore tenui ca. 1-1.5 mm inframarginali neglecto) nervis secundariis ca. 2-2.5 mm inter se distantibus nervulis subtus planis laxiuscule reticulatis (areolis ca. 1 mm latis). Panicula 5-8 cm longa submultiflora; flores 5-meri, pedicellis ca. 4-5 mm longis et ca. 1.3-1.5 mm infra hypanthii basim articulatis, bracteolis 2.5-3 X 0.7-1 mm mox caducis. Hypanthium (ad torum) 2.5 mm longum ad anthesim plerumque glabratum; calycis tubus 0.4 mm altus, lobis interioribus ca. 0.4-0.5 mm longis remotis, dentibus exterioribus lobos interiores plerumque aequantibus callosis. Petala 2.6 X 2.3-2.4 mm alba suborbicularia glabra. Stamina subisomorphica glabra; filamenta 3 mm longa; antherarum thecae 1.3-1.4 X 0.45 X 0.55 mm oblongae late (0.45 mm) 4-porosae, connectivo ventraliter ca. 0.3-0.4 mm prolongato dorsaliter inconspicue hebeti-dentato. Stigma expansum 1 mm diam.; stylus 4.8 X 0.4-0.7 mm glaber in ovarii apicem paulo (0.2 mm) immersus; ovarium 3-loculare et ca. 2/3-3/4 inferum, apice conico 0.4 mm alto glabro.

Type Collection: Charles Schnell 711 (holotype US 2469374), collected in a pasture on volcanic ash soil, Valle Escondido,

Prov. Cartago, Costa Rica, elev. 2600 m, 1 May 1966. "Stout pole 4 m X 4" DBH, with dense short horizontal branches."

Paratypes (all Costa Rica): Prov. Cartago: L. G. Williams 16270, from Cerro de la Muerte, elev. 3100 m; P. C. Standley 35166 and Margery Carlson 3627, both from Volcán de Turrialba, elev. 2000-2600 m; Margery Carlson 3559, from Volcán Irazú, elev. 2950 m. Prov. San José: William Burger & G. Matta U. 4363 and Schnell 187 and 597, all from near Villa Mills, elev. 3100-3200 m.

Miconia biperulifera has moderately stellulate-puberulous young branchlets and plinerved basally acute leaf blades with well-developed pocules in the primary vein axils beneath, but similar flowers; both species have 4-pored anthers. Generally M. schnellii has essentially glabrous branchlets and inflorescences; in Schnell 597 however, the young branchlets and hypanthia are moderately stellulate-furfuraceous. Most of the currently known collections of M. biperulifera are from Volcán de Poás, Alajuela, elev. 2000-2800 m; Tonduz 4266 is from Irazú (elev. 2000 m) and Schnell 780 from Volcán Barba, Heredia (elev. 2300 m). Cogniaux described the style of M. biperulifera as "nulla"; however all flowering collections seen by me have both pistils and anthers well-developed (flowers bisexual).

TOCOCA TETRAMERA Wurdack, sp. nov.

T. caquetanae Sprague affinis, inflorescentia maiora floribus 4-meris calycis calyptra in alabastris seta glandulifera excepta glabra petalis staminibusque maioribus differt.

Frutex 1-3.5 m; ramuli sicut petioli formicaria inflorescentiaque densiuscule setosi (pilis caduce glanduliferis [2-]3 [-4] mm longis) et modice caduceque stellulato-puberuli. Folia didymophysca in quoque pari aliquantum disparilia (1:1.5-1.7); petioli liberi 0.5-1 cm longi; formicaria 1.5-2.5 cm vel 0.3-1 cm longa juxta petiolorum apices evoluta; lamina 9.5-16 X 5-9 cm vel 17-27 X 6.5-12 cm elliptica apice paulo acuminato et ca. 4-6 mm mucronato basi late acuta vel obtusa, membranacea et serrulata dentibus ciliolatis ca. 1 mm profundis et 2-4 mm inter se distantibus, supra sparse appresso-setosa pilis laevibus caduce glanduliferis ca. 2 mm longis, subtus in nervis modice setosa (pilis ca. 1-2 mm longis et ut videtur eglandulosis) et sparse stellulato-puberula in nervulis superficique glabra, 5-nervata nervis secundariis 6-10 mm inter se distantibus nervulis subtus paullulo elevatis modice reticulatis (areolis 0.3-0.4 mm latis). Panicula terminalis multiflora vel submultiflora 9-19 cm longa (pedunculo 3-6 cm longo incluso), ramis primariis in quoque nodo plerumque 4(-6); flores 4-meri, pedicellis (1-)3(-5) mm longis, bracteolis 0.6-0.9 mm longis oblongis mox caducis ca. 0.5-0.8 mm infra hypanthium insertis. Hypanthium (ad torum) 4.7 mm longum extus paullulo 8-alatum in alis modice glanduloso-setosum (pilis 1.5-2 mm longis) alioqui glabrum vel subglabrum (pilis stellulatis paucissimis obtectis); calyx in alabastris ca. 1.3 mm altus hyalinus conicus integer setula glandulifera 1.2 mm longa coronatus alioqui glaber ad

anthesim in lobos 3-4 late ovatos 0.3 mm altos dehiscens, dentibus exterioribus 4 ca. 1.7-2(-3) mm eminentibus (setula terminali glandulifera 0.5 mm longa inclusa); torus intus glaber. Petala glabra 4.7-5 X 2.8-3 mm oblongo-ovovata apice asymmetrico pauloque retuso. Stamina isomorphica glabra; filamenta 3.7-3.8 mm longa; antherarum thecae 4.2 X 0.6 mm paulo subulatae poro 0.1 mm diam. dorsaliter inclinato, connectivo dorsaliter per 0.9-1 mm supra basim 0.2 mm elevato. Stigma paulo expansum 0.4 mm diam.; stylus 7 X 0.3 mm glaber in ovarii apicem 0.1 mm immersus; ovarium 4-loculare et 1/2 inferum apice conico glabro.

Type Collection: José Schunke 3151 (holotype US 2587107A; isotype F), collected in high forest southeast of Nuevo Progreso (Río Huallaga), Distr. Uchiza, Prov. Mariscal Caceres, Depto. San Martín, Peru, elev. 500 m, 18 June 1969. "Arbusto 1 m; hojas de color amarillento; pedunculos rojizos; flores pardas amarillentas; anteras amarillas."

Paratypes (all Peru, fruiting): José Schunke 4778 (F, US), from Isla de Pucnuchu, Río Huallaga, Depto. San Martín; E. Asplund 12318 (S), from Tingo Maria, Depto. Huánuco; E. P. Killip & A. C. Smith 26482 (US), from Puerto Bermudez, Depto. Junín, elev. 375 m (distributed earlier as T. micrantha).

Tococa caquetana has 5(-6)-merous flowers in inflorescences only 2-5 cm long, terete and moderately to densely stellate-puberulent hypanthia, calyx moderately stellulate-puberulent and without a terminal seta, external calyx teeth not or barely projecting, petals 2.7-3.6 X 2-2.6 mm, and anthers 2-2.6 mm long. Most of the currently available material of T. caquetana (Amazonian Colombia, Ecuador, and Peru) was previously determined as T. micrantha Ule (1915), which is surely (from photos and Gleason notes) a synonym of T. caquetana (1904); the numerous specimens show both 3- and 4-celled ovaries but are otherwise quite consonant. The other obvious (and at least as close) relative, T. parviflora Spruce ex Triana (now known from as far south as Cuzco, Peru), has generally shorter (averaging ca. 1 mm) upper leaf surface hairs, inflorescence branchlet internodes without stellulate hairs, glabrous or very sparsely setulose hypanthia, and 3-celled ovaries, but a similar large inflorescence, predominantly 4-merous (in the typical subspecies) flowers, calycine calyptra, and projecting (in the typical subspecies) external calyx teeth. As further collections are accumulated, T. parviflora subsp. manserichensis Wurdack may prove specifically distinct. Apart from T. parviflora and T. tetramera, the only other 4-merous species of Tococa known to me are T. caudata Mgf. and T. quadrialata (Naud.) Macbr., which are otherwise quite different vegetatively and in flowers.

CLIDEMIA SIMPSONII Wurdack, sp. nov.

C. siapensi Wurdack affinis, foliorum laminis integris 5-nervatis calycis dentibus exterioribus longioribus petalis minoribus differt.

Ramuli teretes sicut petioli foliorum venae primariae supra et subtus inflorescentia hypanthiaque dense pilis stellatis breviter (0.1-0.3 mm) stipitatis induti. Petioli 1-3 cm longi; lamina (6-)9-17 X (2.5-)3.5-6 cm oblongo-lanceata apice acuto vel gradatim acuminato basi obtusa vel truncata, membranacea et integra, obscure ciliolata pilis laevibus 0.3-0.4 mm longis et pilis stellatis intermixtis, supra primum sparse stellato-puberula demum subglabrata, subtus sparsiuscule stellato-puberula pilis persistentibus breviter (ca. 0.1-0.2 mm) stipitatis, 5-nervata nervis secundariis ca. 3 mm inter se distantibus nervulis subtus obscure elevatis laxiuscule (areolis 0.5-0.8 mm latis) reticulatis. Inflorescentiae e foliorum superiorum axillas singulae 3-5 cm longae subpauciflorae paniculares; flores 5-meri plerumque breviter (ca. 2 mm) pedicellati, bracteolis setuliformibus sparse stellulato-puberulis persistentibus ad hypanthii bases insertis. Hypanthium 3-3.5 mm longum pilis gracillimis glanduliferis interdum sparsissime ornatum; calycis tubus 0.2 mm longus, lobis interioribus 0.8-1 mm longis oblongo-ovatis extus sparse stellulato-puberulis, dentibus exterioribus subulatis 1.1-1.8 mm eminentibus modice stellulato-puberulis. Petala glabra 2.3-2.7 X 0.8-1 mm oblonga apice rotundato. Stamina isomorphica glabra; filamenta 1.8-2 mm longa; thecae 2-2.2 X 0.3 mm paullo subulatae poro 0.1 mm diam. paulo ventraliter inclinato, connectivo non prolongato dorsaliter ad basim paullulo elevato non vere appendiculato. Stigma truncatum 0.3-0.4 mm diam.; stylus 5 X 0.25-0.35 mm glaber in ovarii apicem ca. 0.4 mm immersus; ovarium 3-loculare et 2/3-3/4 inferum apice modice stellulato-puberulo et interdum glandulis 0.1 mm longis sparsissime ornato.

Type Collection: D. R. Simpson & José Schunke 751 (holotype US 2649575; isotype F), collected along trail between Santa Maria de Nanay and Santa Rosa, Dist. Alto Nanay, Prov. Maynas, Depto. Loreto, Peru, 26 Feb. 1968. "Shrub ca. 1 m; leaves deep green above, red beneath; calyx lemon-green; corolla greenish white; fruit grey blue."

Paratypes: R. E. Schultes & Isidoro Cabrera 15736 (US), from Caño Guacaya, Río Miritiparana, Depto. Amazonas, Colombia, elev. ca. 200 m, 2-8 March 1952; G. T. Prance, P. J. M. Maas, A. A. Atchley, W. C. Steward, D. B. Woolcott, D. F. Coelho, O. P. Monteiro, W. S. Pinheiro, & J. F. Ramos 14237 (NY, US), from near Cachoeira Santo Antonio, Rio Curuquete, Rio Purus-Rio Ituxi drainage, Est. Amazonas, Brazil, 15 July 1971 (fruiting).

Clidemia siapensis has cordulate 7-9-nerved leaf blades which are distantly undulate-serrulate, external calyx teeth projecting only 0.1-0.5 mm, and petals 4.5-5 X 3 mm, but similar indument. In both species, gland-tipped hairs are exceedingly sparse or absent.

HENRIETTELLA PRANCEI Wurdack, sp. nov.

H. loretensi Gleason affinis, foliis distincte 5-plinervatis floribus maioribus differt.

Ramuli primum quadrangulati demum teretes sicut innovationes

petiolique primum dense setulosi (pilis gracillimis ca. 0.3 mm longis) et granuloso-glandulosi demum glabrati. Petioli 3-4 cm longi; lamina 11-18 X 6-8 cm elliptica apice anguste acuto basi late acuta vel obtusa, integra et coriacea, supra glabra, subtus in venis venulisque sparse appresso-setulosa pilis gracillimis ca. 0.2 mm longis in superficie glandulis paucis exceptis glabra et glaucescens, 5-plinervata (pari exteriori tenui inframarginali neglecto) pari interiore 2-3 cm supra basim divergenti nervis secundariis ca. 5 mm inter se distantibus nervulis subtus planis laxe reticulatis (areolis 1-1.5 mm latis). Flores 4-meri paucifasciculati, pedicellis 2.5-3.6 mm longis sicut hypanthiis petalisque extus et calyce ubique modice granuloso-glandulosi. Hypanthium (ad torum) 2.7 mm longum; calycis tubus 0.4-0.5 mm altus, lobis 0.2-0.3 mm altis oblatis, dentibus exterioribus obsoletis. Petala 4.7-5.1 X 2.6-3 mm ovato-oblonga intus ca. 2 mm infra apicem appendiculata apice hebeti-acuto extus obscure mucronulato. Stamina isomorphica glabra; filamenta 4.5 mm longa; thecae 3.1 X 1.2 X 1.2 mm anguste oblonga ventraliter ca. 0.6 mm infra filamentum insertionem prolongatae minute (0.1 mm) biporosae exappendiculatae vel dorsaliter obscure calcaratae. Stigma truncatum 0.4-0.45 mm diam.; stylus 7.5 X 0.4 mm glaber; ovarium 4(?)-loculare omnino inferum apice glabro.

Type Collection: G. T. Prance, P. J. M. Maas, D. B. Woolcott, O. P. Monteiro, & J. F. Ramos 15520 (holotype US 2647821; isotype NY), collected in savanna forest along Rio Uneixi 200-300 km above mouth, Rio Negro basin, Estado Amazonas, Brazil, 22 Oct. 1971. "Treelet 4 m. Calyx red; corolla white tinted pink; filaments white; anthers yellow."

Henriettella loretensis has shoot apices pulverulent with hairs less than 0.1 mm long, 3-plinerved leaf blades, and considerably smaller (but qualitatively similar) flowers (hypanthium plus calyx 1.9 mm long, petals 3.3 X 1.3-1.4 mm, anthers 1.8 X 0.8 mm). The general vegetative aspect of H. prancei is like that of some species of Bellucia and Loreya; the species of the latter genus all have 5-merous (and usually larger) flowers with generally expanded stigmas.

BLAKEA HIRSUTISSIMA (Macbride) Wurdack, comb. et stat. nov.

Blakea hirsuta Berg ex Triana var. hirsutissima Macbride, Field Mus. Publ. Bot. 13(4): 511. 1941.

BLAKEA HIRSUTISSIMA (Macbride) Wurdack var. CHONTALENSIS (Wurdack) Wurdack, comb. nov.

Blakea hirsuta Berg ex Triana var. chontalensis Wurdack, Mem. N. Y. Bot. Gard. 16(1): 41. 1967.

José Schunke's recent near-topotypical collections (San Martín, Prov. Mariscal Cáceres: Distr. Campanilla, 4293; Distr. Tocache Nuevo, 4074 and 4947) of B. hirsuta var. hirsuta, coupled with examination of the type collection (W), show petioles ca. 1 cm long, ovate-lanceate floral bracts with eglandular hairs, anther thecae (dry) ca. 4 mm long with the dorso-basal blunt spur elevated 0.7-1 mm from the filament

insertion, and ovary apex with ca. 12 robust setae 4-5 mm long; the leaf blades are often sparsely appressed-setose above when young but glabrate with age. The Marañón population of B. hirsutissima (cf. Wurdack 2100 and 2292) has petioles 2-3 cm long, obovate-oblong broadly acute to obtuse bracts with some gland-tipped hairs, anther thecae (dry) 5-5.5 mm long with the blunt dorso-basal spur elevated ca. 1.5-2 mm, and ovary apex glabrous. Blakea hirsutissima var. chontalensis has shorter cauline pubescence than the typical variety (and somewhat smaller anther thecae), but other floral details (bracts, glabrous ovary) as in the Marañón variety. From Markgraf's description as well as a fruiting specimen (Grubb, Lloyd, Pennington, & Whitmore 1586, from near Tena) very tentatively determined by me, B. hirsuta var. rotundata Mgf. may well not be conspecific with either B. hirsuta or B. hirsutissima, so transfer of this Ecuadorian variety has been postponed until toptypical flowering specimens are collected.